

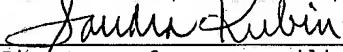
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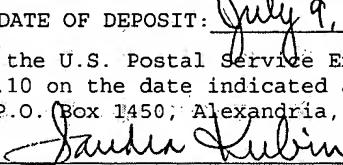

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A CONTAINER HAVING A GUARD

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A CONTAINER HAVING A GUARD

[0001] This application claims priority of United Kingdom Patent Application No. 0310387.6, filed May 6, 2003, which claims priority of United Kingdom Patent Application No. 0226625.2, filed November 14, 2002.

[0002] This invention relates to a container having a guard, and particularly although not exclusively relates to a modified ring pull for a beverage can which prevents the ingress of wasps into the can.

BACKGROUND OF THE INVENTION

[0003] Beverage cans with ring pulls are extremely widely used throughout the world. Certain insects are attracted to sweet beverages and can get into unattended beverage cans, so that the insect can be swallowed when a person drinks from the can. This experience is always extremely distressing, but if the insect stings, the incident can become life-threatening. The insect which is responsible for the largest number of serious incidents in Europe is the European wasp (*Vespula Germanica*).

STATEMENT OF INVENTION

[0004] According to a first aspect of the present invention, there is provided a container having an insect guard comprising a ring pull with an opening, the insect guard being movable over an outlet of the container, the opening being sized to prevent the ingress of insects into the outlet whilst enabling the contents of the container to be poured out.

[0005] Preferably, the opening comprises a slot formed in the ring pull. Preferably the slot is arcuate.

[0006] Preferably, the slot is elongate and is longer than it is wide. Preferably, the width of the slot is no greater than 3.5 mm.

[0007] Preferably, the ring pull is moveable from a first position, in which the container can be opened to a second position over the said outlet.

[0008] Preferably, the opening comprises a recess which may be formed in an edge of the ring pull.

[0009] Preferably, the ring pull is adapted to engage in the outlet of the container or to engage the can adjacent the outlet.

[00010] Preferably, the ring pull is provided with a tang which engages in the outlet when the ring pull has been moved over the outlet. Most preferably, the ring pull is provided with a pair of depending tangs, which tangs may engage opposite sides of the outlet.

[0010] Preferably, the tang or tangs are provided with a circumferential recess into which a rim of the outlet seats, when the ring pull is moved over the outlet. Preferably, the ring pull must be moved towards the outlet in order to seat the rim of the outlet into the recess or recesses. In this embodiment, the ring pull "snaps" into its locked position over the outlet.

[0011] According to a second aspect of the present invention, there is provided a container having a ring pull which can be positioned over an outlet of the container, to function as a guard to prevent the ingress of foreign objects into the container, whilst enabling the contents of the container to be poured out, the ring pull being adapted to engage in the outlet of the container or to engage the can adjacent the outlet.

[0012] The said foreign objects may comprise insects, drug tablets, or other objects which present a health risk.

BRIEF DESCRIPTION OF THE DRAWING

[0013] For a better understanding of the present invention and to show how it may be carried into effect, reference will now be made, by way of example, to the accompanying drawing in which:

[0014] Figure 1 is a top view of a closed beverage can;

[0015] Figure 2 shows a beverage can in the process of being opened;

[0016] Figure 3 shows a ring pull being rotated over a fluid outlet of the can;

[0017] Figure 4 shows a ring pull acting as an insect guard by covering the fluid outlet from the can;

[0018] Figure 5 is a perspective view of an alternative embodiment of ring pull/guard, provided with depending tangs; and

[0019] Figure 6 is a view on arrow A of Figure 5.

DETAILED DESCRIPTION OF A PREFERRED EMBODIMENT

[0020] For the avoidance of doubt, the term "ring pull" encompasses any type, shape or size of ring pull and may include a ring pull having a main body and a cover which is separate from, but attached to, the main body.

[0021] Figures 1 and 2 show a container in the form of a beverage can 2 having a top surface 4 in which is formed a fluid outlet 6. As is well known in the art, the fluid outlet 6 of the unopened can is closed by a tab of material 8 which is integrally formed with the top surface 4 of the can, and which is defined by a line of weakening 10 which runs around the periphery of the tab 8.

[0022] A ring pull 12 is rotatably connected to the top surface 4 by means of a rivet 14. The ring pull 12 comprises a base portion 16 which is connected to the rivet 14 and a grip portion 18 which is gripped by a user when the can is opened. An elongate arcuate opening 20 is formed substantially across the full width of the grip portion 18 of the ring pull 12. Furthermore, a top edge 22 of the grip portion 18 is relieved, to form a recessed portion 24 of the ring pull 12.

[0023] The can 2 is opened with the ring pull 12 in the orientation illustrated in Figure 1. The grip portion 18 is pulled upwardly by a user, so that the base portion 16 is pivoted down onto the tab 8, causing the line of weakening 10 to break and the tab to be pushed down into the drinks can, as illustrated in Figure 2.

[0024] Referring to Figure 3, the ring pull 12 is then pushed back against the top surface 4 of the can 2 and is

rotated through 180°, into the orientation illustrated in Figure 4. In this orientation the grip portion 18 covers the fluid outlet 6 in the top surface 4 of the can 2. The width d₁ of the arcuate opening 20, and the width d₂ of the gap between the recessed portion 24 of the ring pull 12 and the radially outer edge of the fluid outlet 6 are set, so that insects can not enter the can when the can is left unattended. In a preferred embodiment, intended to prevent the ingress of European wasps, d₁ and d₂ are less than or equal to 3.5 mm.

[0025] Figures 5 and 6 show an alternative embodiment of ring pull 12 in which a pair of tangs 26, 28 project downwardly from an underside of the ring pull 12 on opposite sides of the grip portion 18. The outer surface of each tang 26, 28 is provided with an arcuate recess 30, 32 and bevelled leading edge 34, 36.

[0026] In use of the can 2, in the orientation illustrated in Figure 4 (with the ring pull 12 disposed directly over the outlet 6 from the can 2), the bevelled leading edges 34, 36 of the tangs 26, 28 will be resting on the top surface 4 of the can adjacent the fluid outlet 6. If the ring pull 12 is then pushed downwardly, a rim of the fluid outlet 6 will ride up the bevelled leading edge 34, 36 until it springs into the arcuate recesses 30, 32. This process is facilitated by slight elastic deflection of the top surface 4 of the can, and/or by slight elastic deflection of the tangs 26, 28.

[0027] Unfortunately, it is not unknown for a person to tamper with an unattended can. For example, a drug tablet may be introduced into the can without the knowledge of the user of the can. This danger is greatly reduced with the above described can, because the shape and size of the opening(s) in the ring pull prevent a tablet being introduced into the

outlet 6. Furthermore, once the rim of the fluid outlet 6 is located in the arcuate recesses 30, 32, withdrawal of the tangs 26, 28 from the interior of the can is impossible, unless the ring pull 12 is levered by a tool such as a screwdriver. This would cause damage to the ring pull, so if a third party forcibly removed the ring pull 12 from the fluid outlet 6, this tampering would be evident to the user of the can.

[0028] In a preferred embodiment, the distance between the bottoms of the arcuate recesses 30, 32 is substantially identical to the width of the fluid outlet 6 in the region of the tangs 26, 28, whereas the distance between the outer surfaces of the tangs 26, 28 at their widest point would be greater than the width of the fluid outlet 6 in the region of the tangs 26, 28. The precise relationship between the above mentioned dimensions can of course be adjusted, for use in any particular application, dependent on the shape of the components, and on the material from which the can, ring pull and tangs are made.

[0029] Although in the preferred embodiment, the ring pull 12 is provided with an arcuate opening 20 of a particular shape, and the top edge 22 of the ring pull 12 is relieved to form a recessed portion 24, any combination of openings and/or recessed portions in the ring pull 12 are contemplated, provided that the contents of the can can be drunk through the opening(s) and/or recess(es) whilst the ingress of specific foreign objects, such as insects, is prevented.

[0030] Although illustrative embodiments of the invention have been shown and described, a wide range of modifications, changes and substitutions is contemplated in the foregoing disclosure. In some instances, some features of the present

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invention may be employed without a corresponding use of the other features. Accordingly, it is appropriate that the appended claims be construed broadly and in a manner consistent with the scope of the invention.